

SPECTRUM[®]

SynOptics Series 3000 Hub Management Module Guide

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Chapter 4 Event and Alarm Messages

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Use this guide if you are going to manage any SynOptics 3000 Series Hub through SPECTRUM. Before reading this guide, you should be familiar with SPECTRUM's functions. You should also be familiar with any network management and hardware requirements described in the related SynOptics hub documentation.

What is in this Guide

The following chapter descriptions outline the organization of the *SynOptics 3000 Series Management Module Guide*:

Chapter	Description
Chapter 1 <i>Introduction</i>	Describes the SynOptics hub management module and model types.
Chapter 2 <i>Device View</i>	Describes the Device View's logical and physical representation of a SynOptics hub.
Chapter 3 <i>Configuration Views</i>	Describes the Configuration Views for the SynOptics 3000 Series hub models, which provide network management information for the device.
Chapter 4 <i>Configuration Views</i>	Contains a listing and explanation of the event/alarm messages generated in the Event Log and Alarm View for the SynOptics hub model types.
Chapter 5 <i>Application View</i>	Describes the Application View for the SynOptics 3000 Series hub models and the major and minor application information provided by the view.

Terminology

This section defines several terms used in this guide to describe the SynOptics hub model types.

Hub

For the purposes of this guide, the general term *hub* replaces the term *concentrator* in representing SynOptics devices.

Hub Chassis

The software model representation of the SynOptics hub (4 or 12 slots) with no modules installed in any of its slots.

Media Interface Modules

The software model representations of modules installed in a SynOptics hub chassis. There are two types of Modules: Intelligent Modules and Non-Intelligent Modules.

Intelligent Modules

Modules that provide network management functions and network media interfacing. These are also referred to as NMM - network management modules.

Non-intelligent Modules

Modules that provide interfaces to different kinds of network media, but have no network management capabilities.

Refer to the specific SynOptics hardware manual for a detailed description of your particular SynOptics hub or module.

Conventions

This guide uses the following conventions:

- Menu selections and buttons referenced in text appear in **bold**; for example, **Configuration** or **Detail**.
- Button names appear in shadowed boxes when introducing paragraphs describing their use; for example:

Help

- Menu navigation appears in order of selection; for example, **Icon Subviews -> Utilities -> Application**.
- Referenced chapter titles and section headings appear in *italics*.
- Referenced documents appear in ***bold italics***.
- Hypertext links are blue for online documents.
- SynOptics 3000 Series Hub is referred to as “device.”

Related SPECTRUM Documentation

Refer to the following documentation for more information on managing with SPECTRUM:

Routing Services Management Module Guide

Report Generator User's Guide

Getting Started With SPECTRUM for Operators

Getting Started With SPECTRUM for Administrators

How To Manage Your Network With SPECTRUM

Other Related Documentation

Refer to the following documentation for more information on managing TCP/IP-based networks:

Martin, James, Kathleen Kavanagh Chapman, Joe Leben. ***Local Area Networks: Architectures and Implementations***, 2d ed. Englewood Cliffs, NJ: Prentice Hall, 1994.

Rose, Marshall T. ***The Simple Book: An Introduction to Management of TCP/IP-based Internets***. Englewood Cliffs, NJ: Prentice Hall, 1991.

Stallings, William. ***Data and Computer Communications***, 4th ed. New York: Macmillan Publishing Company, 1994.

Tanenbaum, Andrew S. ***Computer Networks***, 3d ed. Englewood Cliffs, NJ: Prentice Hall, 1996.

Introduction

What is in this Chapter

This chapter introduces the SPECTRUM Management Module for SynOptics Model 3000 Series hubs. It describes the following:

- SynOptics 3000 Series Hubs
- SPECTRUM Model Type
- Accessing SPECTRUM Views
- Roadmap of SPECTRUM Views

SynOptics 3000 Series Hubs

The SynOptics 3000 Series Hubs are 12 (3000) and 4 (3030) slot concentrators. [Table 1-1](#) through [Table 1-4](#) list the modules based on technology that are installed in the concentrators above.

SPECTRUM Model Type

The model type refers to the management module software package used to specify attributes, actions, and associations for the physical device using the Simple Network Management Protocol (SNMP) and Management Information Bases (MIBs). The following section details the different model types provided by this management module, and describes the supported physical modules corresponding to each model type.

HubSynSer3xxx

This model type represents the SynOptics Model 3000 Ethernet hub series of devices. [Table 1-1](#) provides a list of supported Ethernet models and their descriptions.

Table 1-1. Supported Ethernet Model Types

Model	Description
3040	Network control engine (Sparc)
3040s	Network control engine (Sparc)
3100r	Summing module
3174	Workstation Controller
3301	Ethernet ThinNet host module
3301_75	Thin net ether host module
3301_93	Thin net ether host module
3302	Shielded twisted pair ether host module
3304a	10BASE-F host module
3304st	Ether fiber host module
3305	UTP Ethernet host module
3307	UTP Ethernet 50 pin host module
3307a	Ether host module with amp
3307hd	UTP Ethernet 50 pin host module
3308	Ether host module
3308a	Ether host module
3308b	10BASE-T Ethernet host module
3313	Ether AUI NMM with RS232 port
3313a	Ether AUI NMM with RS232 port
3313m	Ether AUI NMM with modem
3313s	Ether AUI NMM with modem
3313sa	Ethernet NMM (super agent)
3314a	Ether FOIRL NMM w/RS232 port
3314s	Ether FOIRL NMM with modem
3314sa	Ethernet FOIRL NMM (super agent)
3314st	Ether FOIRL NMM w/RS232 port

Table 1-1. Supported Ethernet Model Types (Continued)

Model	Description
3314mst	Ether FOIRL NMM with modem
331x	Ether NMM w/unknown MDA type
3323	Ether AUI local bridge
3328	Ethernet Switching Engine
3333	Ethernet AUI retiming module
3334st	Ethernet FOIRL retiming module
3356	Ether remote bridge
3368	10BASE-T Ethernet host module
3383	Ether AUI local router
3384	Ether FOIRL local router
3386	cisco remote router
3394	Ether-localtalk router
3395	Xyplex terminal server
3395a	Xyplex terminal server

HubSynTR3xxx

This model type represents the SynOptics Model 3000 Token Ring hub series of devices. [Table 1-2](#) provides a list of supported Token Ring models and their descriptions.

Table 1-2. Supported Token Ring Model Types

Model	Description
3100r	Summing module
3502	STP Token Ring host module
3502a	STP Token Ring host module
3502b	STP/UTP Token Ring host module
3504-st	Fiber Token Ring host module
3505	UTP Token Ring host module
3505a	UTP Token Ring host module
3505b	UTP/STP Token Ring host module
3512	TR NMM w/STP ring in/ring out

Table 1-2. Supported Token Ring Model Types (Continued)

Model	Description
3512s	TR NMM w/STP ring in/ring out
3513	STP Token Ring NMM
3513s	STP TR repeater NMM
3513sa	Token Ring NMM (super agent)
3514st	Fiber Token Ring NMM
3514s	TR NMM w/FOIRL ring in/ring out
3517sa	Fiber/STP Token Ring NMM (super agent)
351x	TR NMM module w/unknown MDA type
3522	STP Token Ring Local Bridge
3522a	TR Local Bridge
3532	STP Token Ring ring in/ring out module
3534	FOIRL repeater
3552	STP ring in/ring out module
3554	FOIRL ring in/ring out module

HubSyn3FDDI

This model type represents the SynOptics FDDI 3000 series of devices. [Table 1-3](#) provides a list of supported FDDI models and their descriptions.

Table 1-3. Supported FDDI Model Types

Model	Description
3904	Multi-mode Fiber FDDI Host module
3904-2sm	Single-mode Fiber FDDI Host module
3905	UTP FDDI Host module
3910s	Multi-mode Fiber FDDI NMM
3910s-sm	Single-mode Fiber FDDI NMM

BdgSyn332xS

This model type represents the SynOptics 332xS Ethernet Local Bridge. The bridge module in the 3000 Series hub does not recognize the rest of the hub, therefore any Hub Chassis views are not available. [Table 1-4](#) provides a list of supported Bridge models and their descriptions.

Table 1-4. Supported Bridge Model Types

Model	Description
3323s	Ethernet AUI high speed local bridge
3324-st	Ethernet FOIRL high speed local bridge

Supported Mibs

The SynOptics Series 3000 Management Module supports four types of models to represent both the physical hub and its interfaces. The following sections provide a description of these models and how they are related. [Table 1-5](#) lists the supported MIBs.

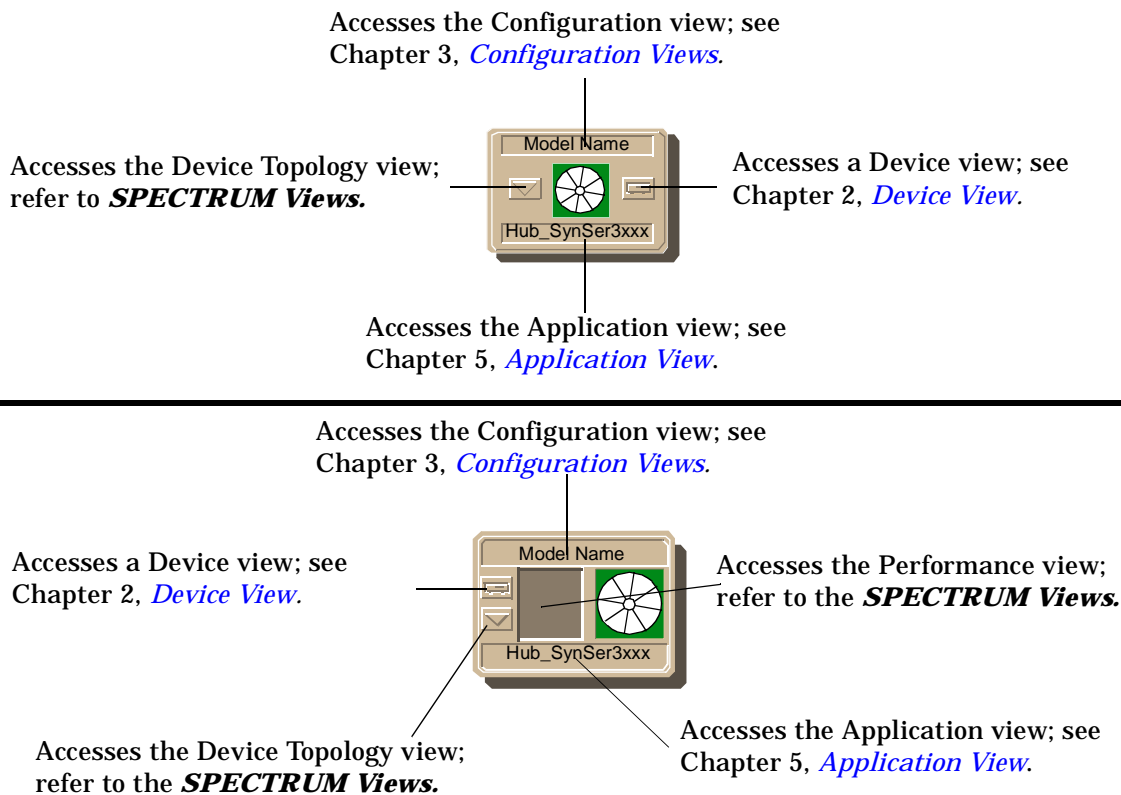
Table 1-5. Supported MIBs

MIB	Release Number	Imports From
SynOptics Common	4.2.0	RFC1155-SMI RFC1213-MIB RFC-1212
SynOptics Ethernet	4.1	RFC-1213-MIB RFC-1155-SMI RFC-1212
SynOptics Basic Ethernet & Token Ring 2K & 3K	N/A	RFC1155-SMI RFC-1212 RFC-1215
SynOptics Token Ring	4.0.2	RFC1155-SMI RFC-1212 RFC1213-MIB SynOptics-Common-MIB
SynOptics FDDI Concentrator	2.1.2	RFC1155-SMI RFC-1212 RFC1213-MIB SynOptics-Common-MIB
SynOptics Ethernet Local Bridge	N/A	RFC1065-SMI

Accessing SPECTRUM Views

Icons provide access to SPECTRUM views that display device-specific information. Access these views through double-click zones ([Figure 1-1](#)) and Icon Subviews menus ([Figure 1-2](#) and [Figure 1-3](#)).

Figure 1-1. Using Double-Click Zones to Access SPECTRUM Views



To access the Icon Subviews menu as shown in [Figure 1-2](#) and [Figure 1-3](#), do the following:

1. Highlight the icon or label.
2. From the View menu, select **Icon Subviews**, or click and hold the applicable mouse button (middle or right) over the icon or label. Refer to the *Icons* documentation for information on configuring your mouse.

Figure 1-2. Accessing Icon Subviews Menus from the Device Icon

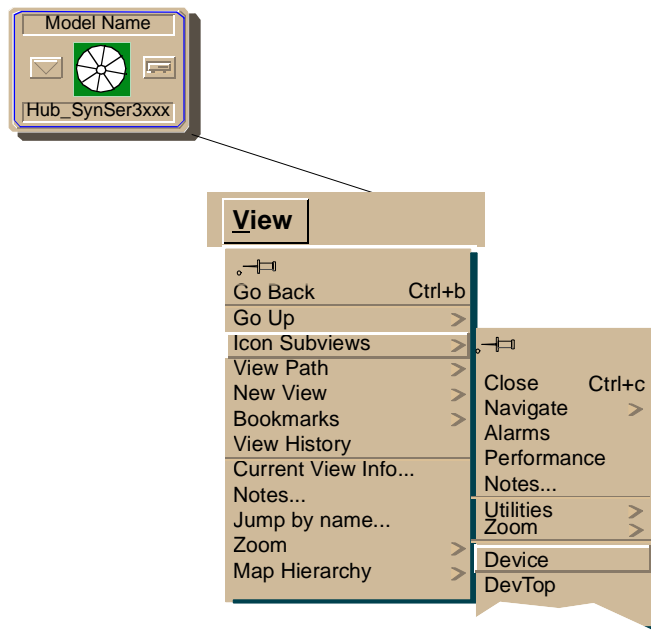
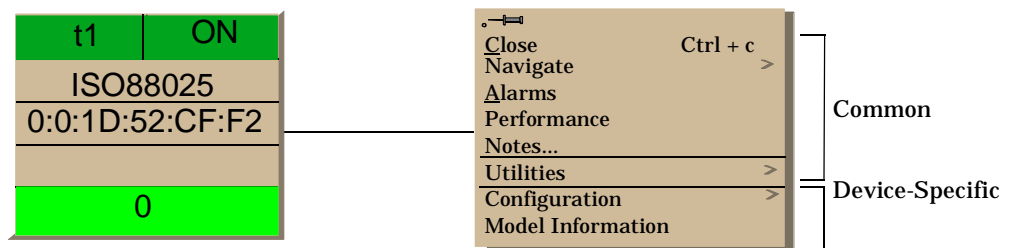


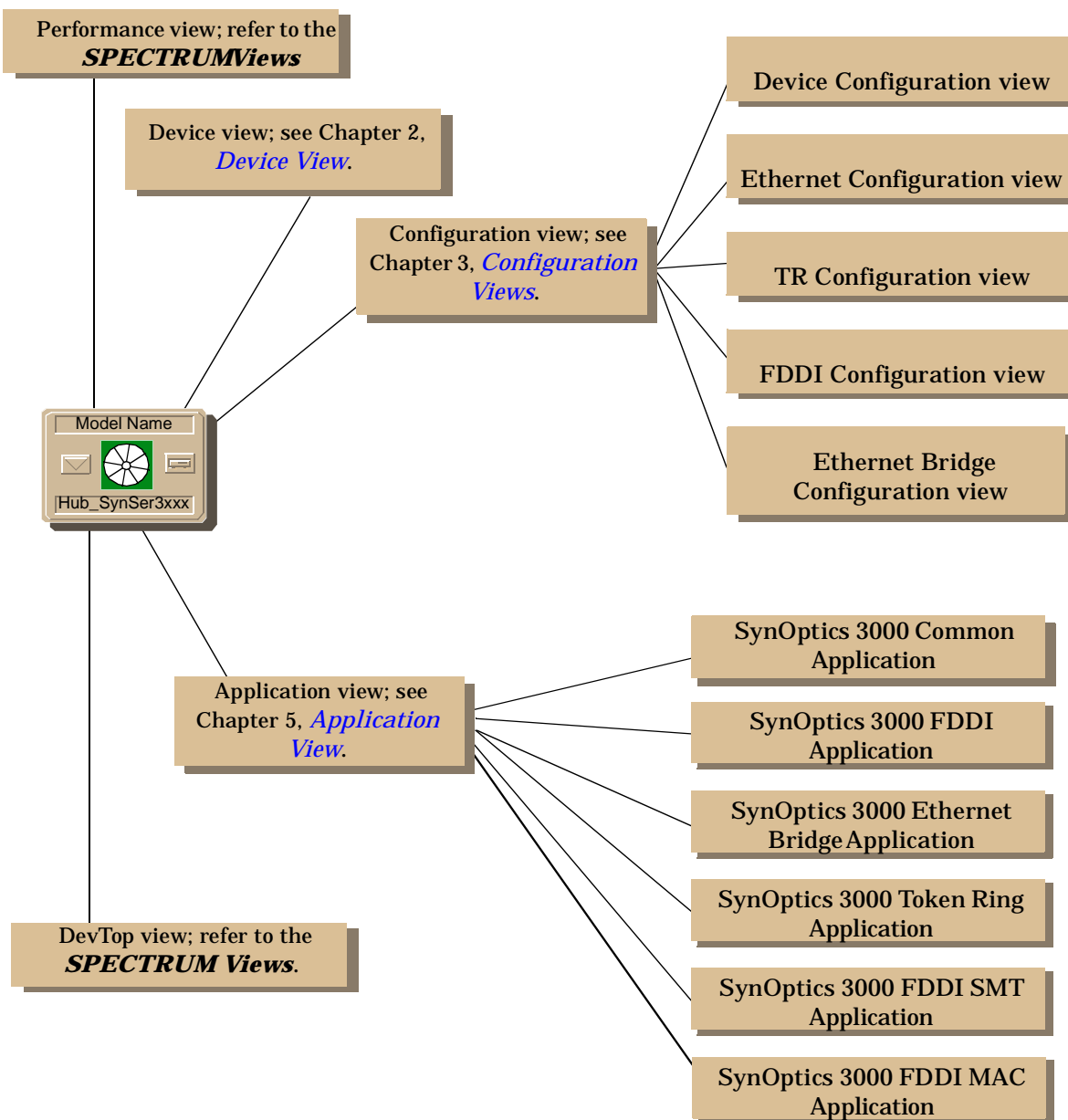
Figure 1-3. Accessing Icon Subviews Menus from Labels



Roadmap of SPECTRUM Views

Figure 1-4 shows a “roadmap” of the SPECTRUM views for this device. These views are accessible from double-click zones (Figure 1-1) and Icon Subviews menus (Figure 1-2 and Figure 1-3).

Figure 1-4. SPECTRUM Views Roadmap





Chapter 2

Device View

What is in this Chapter

This chapter describes the following Device views available for the SynOptics 3000 Series Hubs management module:

- *Logical Device View*
- *Physical Device View*
- *Bridge Device View*

See Chapter 1, *Introduction*, for information on *Accessing SPECTRUM Views*.

Logical Device View

This view displays a logical representation of the modules installed in the hub. The logical module representation provides information about the individual modules and its ports. [Figure 2-1](#) show examples of a Logical Device view with module for Ethernet, Token Ring, and FDDI hubs. If the configuration changes (for example, a module is pulled or added to the hub), you see the corresponding change within this Device view after the next SPECTRUM polling cycle for the hub.



The SynOptics 332xS Ethernet Local Bridge will not have a Logical Device View. The hub representation is not a true reflection of a Logical Device in that the modules are of different technologies (Ethernet, FDDI, etc.). In your view the hub will show only those modules for a technology-specific hub.

Figure 2-1. Logical Device View

Example of type HubSyn3xxx of Landscape daedalus:Primary

* **File** **View** **Help?**

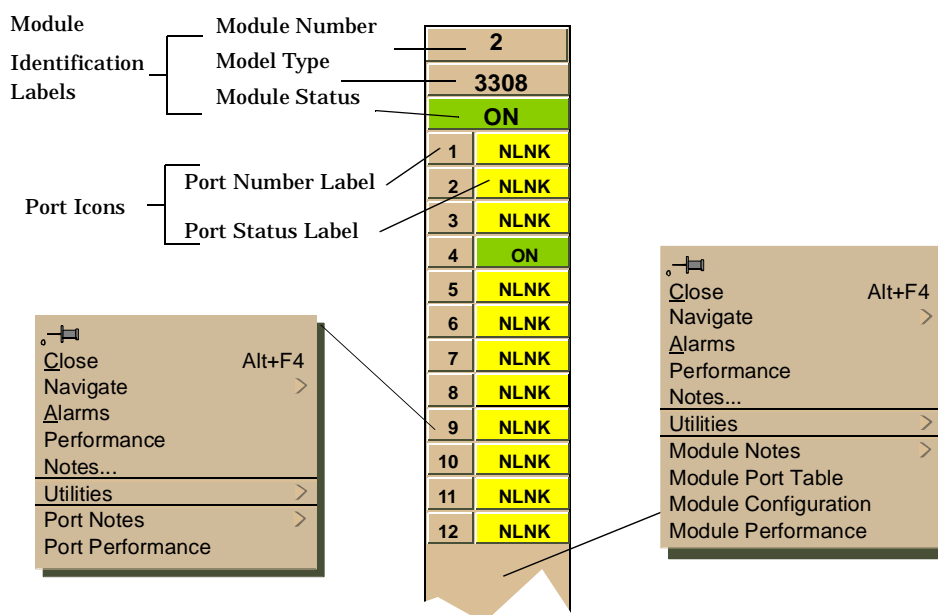
Model Name Net Addr Sys Up Time
 Contact Manufacturer
 Description Device Type
 Location Prime-App Serial Number

1	2	3	4	5	7	8	9	10	11
33145	3308	3301		3910S	3902A	3905		33145	3301
ON	ON	ON						10 ON	11 ON
1 NLNK	1 NLNK	1 ON		1 Enable	1 Enable	1 Enable		R1 16M	R1 16M
	2 NLNK	2 ON		2 Enable	2 Enable	2 Enable		1 Ring	1 Sta
	3 NLNK	3 ON			3 Enable	3 Enable		BYP	ON
	4 ON	4 ON			4 Enable	4 Enable		2 Ring	2 Sta
	5 NLNK	5 ON						BYP	ON
	6 NLNK	6 ON						3 Sta	ON
	7 NLNK	7 ON						4 Sta	ON
	8 NLNK	8 ON						5 Sta	ON
	9 NLNK							6 Sta	BYP
	10 NLNK							7 Sta	BYP
	11 NLNK							8 Sta	BYP
	12 NLNK							9 Sta	BYP
								10 Sta	BYP
								11 Sta	BYP
								12 Sta	BYP

Ethernet Module Icon

This icon is a logical representation of the physical module. It shows the location in the hub chassis and its front panel interfaces and ports. [Figure 2-2](#) shows an example of an Ethernet Module icon.

Figure 2-2. Ethernet Module Icon



Module Identification Labels

These labels provide the following information:

Module Number

Identifies the number of the module in the hub. Double-click this label to access the Module Notes.

Module Type

Identifies the type of module that occupies this slot in the hub. Double-click this label to access the Model Information view described in the **SPECTRUM Views**.

Module Status

Identifies the status of the module. Double-click this label to access the performance view. Performance views are described in the **SPECTRUM Views**. Module status conditions are defined as follows:

- ON - Green
- PAR (Partitioned) - Yellow

Module Icon Subviews Menu Selections

[Table 2-1](#) lists each of the device-specific Icon Subviews menu selections available for this device. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Table 2-1. Module Icon Subviews Menu

Menu Selection	Description
Module Notes	Opens the Module Notes view which allows you to keep notes specific to this module.
Module Port Table	Opens the Port Table view.
Module Configuration	Opens the Ethernet Configuration view described in Chapter 3, Configuration Views .
Module Performance	Opens the Performance view described in the <i>SPECTRUM Views</i> .

Port Icon

Port icons display the following information for each port on the device:

Port Type Label

Identifies which port this icon represents. Double-click this label to access the Port Notes view.

Port Status Label

Displays the status of the port. Double-click this label to open the Port Performance view. Port status conditions are defined as follows:

- NLNK (No Link) - Yellow
- ON - Green
- OFF - Blue

Port Icon Subviews Menu Selections

[Table 2-2](#) lists each of the port-specific Icon Subviews menu selections available for this device. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

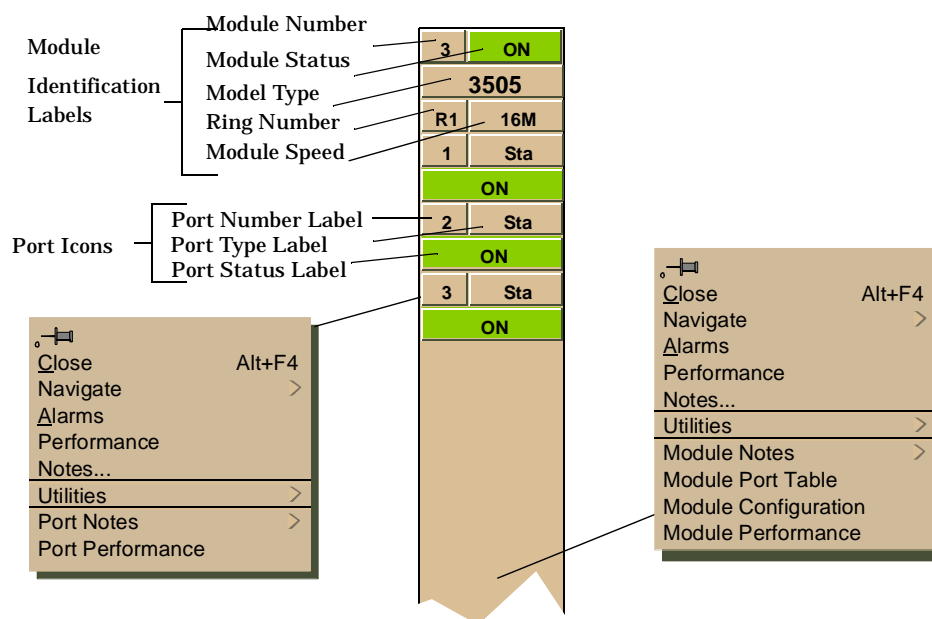
Table 2-2. Ethernet Port Menu Selections

Menu Selection	Description
Port Notes	Opens the Port Notes view.
Port Performance	Opens the Port Performance view described in the <i>SPECTRUM Views</i> .

Token Ring Module Icon

This icon is a logical representation of the physical module. It shows the location in the hub chassis and its front panel interfaces and ports. [Figure 2-3](#) shows an example of a Token Ring Module icon.

Figure 2-3. Token Ring Module Icon



Module Identification Labels

These labels provide the following information:

Module Number

Identifies the slot number of the module in the hub. Double-click this label to access the Module Notes.

Model Type

Identifies the model type for this device.

Module Status

Identifies the operating status of the module. Double-click this label to access the Module Performance view described in the ***SPECTRUM Views***.

Ring Number

Identifies which ring this module is on.

Module Speed

Identifies the transmission speed setting of the module.

Module Icon Subviews Menu Selections

[Table 2-3](#) lists each of the device-specific Icon Subviews menu selections available for this device. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Table 2-3. Module Icon Subviews Menu

Menu Selection	Description
Module Notes	Opens the Module Notes view which allows you to keep notes specific to this module.
Module Port Table	Opens the Port Table view.
Module Token Ring Configuration	Opens the SynOptics Module Token Ring Module Configuration view described in Chapter 3, Configuration Views .
Module Configuration	Opens the SynOptics Module Configuration view described in Chapter 3, Configuration Views .
Module Performance	Opens the Performance view described in the <i>SPECTRUM Views</i> .

Port Icons

Port icons display the following information for each port on the device:

Port Number Label

Identifies the port on this device. Double-click this label to access the Port Notes view.

Port Type Label

Identifies the type of port on this device. Possible types are Station (Sta) or Ring In/Ring Out (Ring). Double-click this label to access the [Token Ring Configuration](#) described on Page 3-11.

Port Status Label

Displays the operating status of this port. Double-click this label to access the Port Performance view described in the **SPECTRUM Views**. Port status conditions are as follows:

- ON - Green
- WRAP - Red
- BYP (Bypassed) - Yellow

Port Icon Subviews Menu Selections

[Table 2-4](#) lists each of the port-specific Icon Subviews menu selections available for this device. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

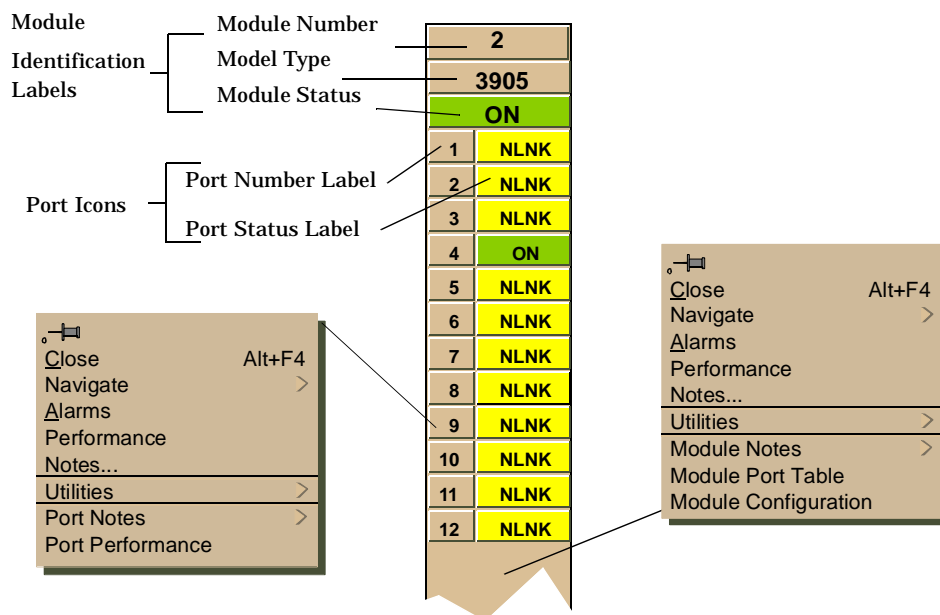
Table 2-4. Token Ring Port Menu Selections

Menu Selection	Description
Port Notes	Opens the Port Notes View.
Port Configuration	Opens the SynOptics Token Ring Port Configuration view described in Chapter 3, Configuration Views .
Port Performance	Opens the SynOptics Token Ring Port Performance view described in the SPECTRUM Views .

FDDI Module Icon

This icon is a logical representation of the physical module. It shows the location in the hub chassis and its front panel interfaces and ports. [Figure 2-4](#) shows an example of an FDDI Module icon.

Figure 2-4. FDDI Module Icon



Module Identification Labels

These labels provide the following information:

Module Number

Identifies the number of the module in the hub. Double-click this label to access the Module Notes.

Module Type

Identifies the type of module that occupies this slot in the hub. Double-click this label to access the Model Information view described in the **SPECTRUM Views**.

Module Status

Identifies the status of the module. Double-click this label to access the performance view. Performance views are described in the **SPECTRUM Views**. Module status conditions are defined as follows:

- ON - Green
- PAR (Partitioned) - Yellow

Module Icon Subviews Menu Selections

Table 2-5 lists each of the device-specific Icon Subviews menu selections available for this device. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Table 2-5. Module Icon Subviews Menu

Menu Selection	Description
Module Notes	Opens the Module Notes view which allows you to keep notes specific to this module.
Module Port Table	Opens the Port Table view.
Module Configuration	Opens the Ethernet Configuration view described in Chapter 3, Configuration Views .
Module Performance	Opens the Performance view described in the <i>SPECTRUM Views</i> .

Port Icon

Port icons display the following information for each port on the device:

Port Type Label

Identifies which port this icon represents. Double-click this label to access the Port Notes view.

Port Status Label

Displays the status of the port. Double-click this label to open the Port Performance view. Port status conditions are defined as follows:

- NLNK (No Link) - Yellow
- ON - Green
- OFF - Blue

Port Icon Subviews Menu Selections

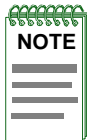
Table 2-6 lists each of the port-specific Icon Subviews menu selections available for this device. See Chapter 1, [Introduction](#), for information on [Accessing SPECTRUM Views](#).

Table 2-6. FDDI Port Menu Selections

Menu Selection	Description
Port Notes	Opens the Port Notes view.
Port Performance	Opens the Port Performance view described in the SPECTRUM Views .

Physical Device View

The SynOptics hub Physical Device view shows a physical representation of the hub and the modules installed within it. [Figure 2-5](#) show an example a Physical Device view.



The SynOptics 332xS Ethernet Local Bridge will not have a Physical Device view.

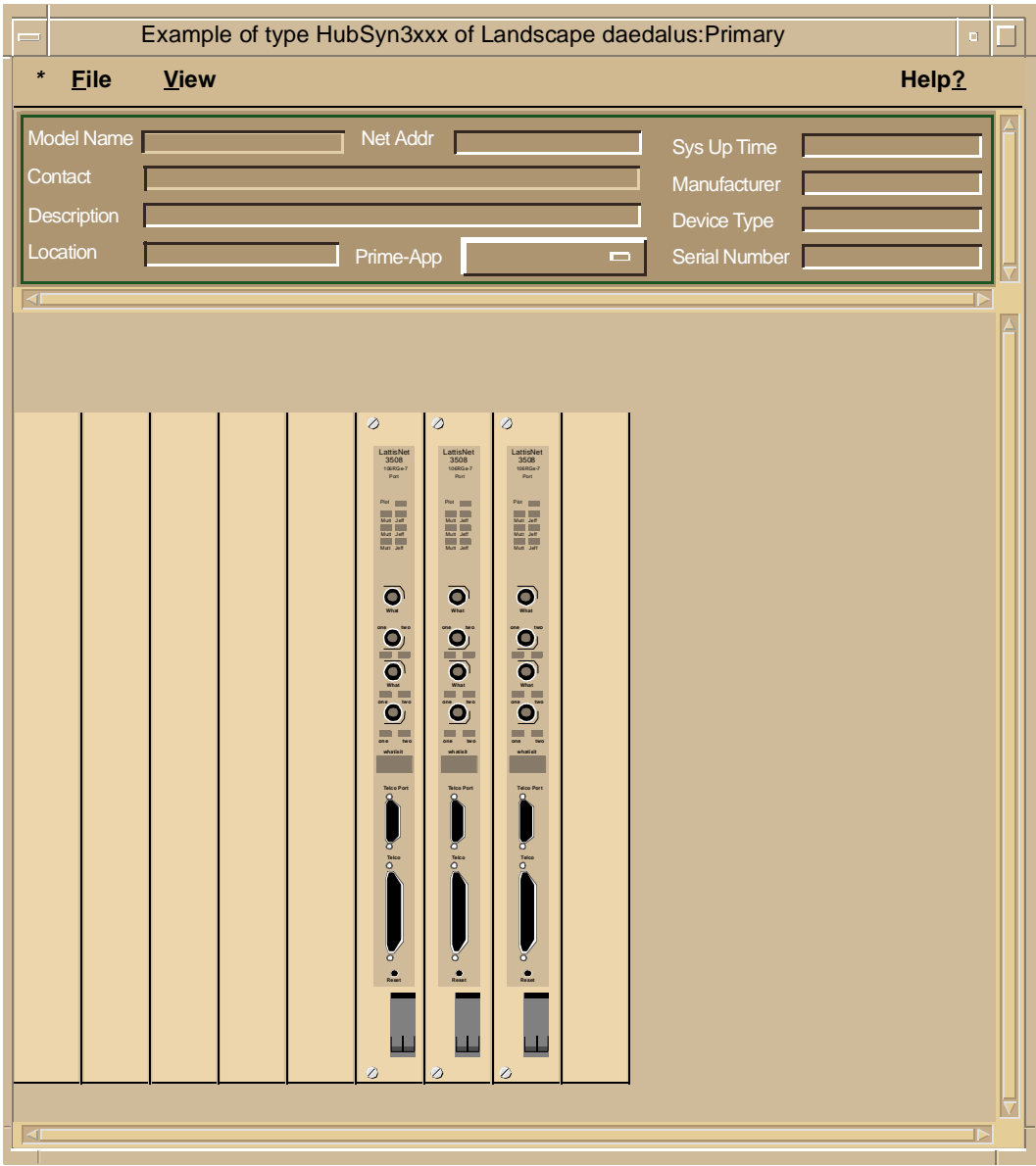
The Physical Device view allows you to access the same Icon Subviews menus for modules installed in the SynOptics hub as the Logical view. To access the Icon Subviews:

1. Click on a module icon within the view to highlight it.
2. From the View menu, select **Icon Subviews**.



Port views cannot be accessed from this view.

Figure 2-5. Physical Device View



Bridge Device View

The SynOptics 332xS Bridge Device view provides dynamic configuration and performance information for the bridge interface. If the configuration changes, SPECTRUM modifies the Device view after the next polling cycle to reflect the new configuration. [Figure 2-6](#) provides an example of the Device view.

Figure 2-6. Bridge Device View

The screenshot shows a window titled "Example of type BdgSyn332xS of Landscape daedalus:Primary". The window has a menu bar with "File", "View", and "Help?". Below the menu bar is a form with several input fields and buttons. The form is divided into two main sections. The top section contains fields for "Model Name", "Net Addr", "Sys Up Time", "Contact", "Manufacturer", "Description", "Device Type", "Location", "Prime-App", and "Serial Number". The bottom section contains a "Find" button with a dropdown menu set to "Physical", a "Network Information" button with a dropdown menu set to "ADDRESS", and an "Interface Description" field. Below the form is a table with the following data:

1	ON
Ethernet	
0:0:1D:17:2F:3C	
IP Address	
0	

Bridge Interface Icon

This icon represents the Bridge interface for the BdgSyn332xS model type. It identifies the type of interface or port and provides statistical information.

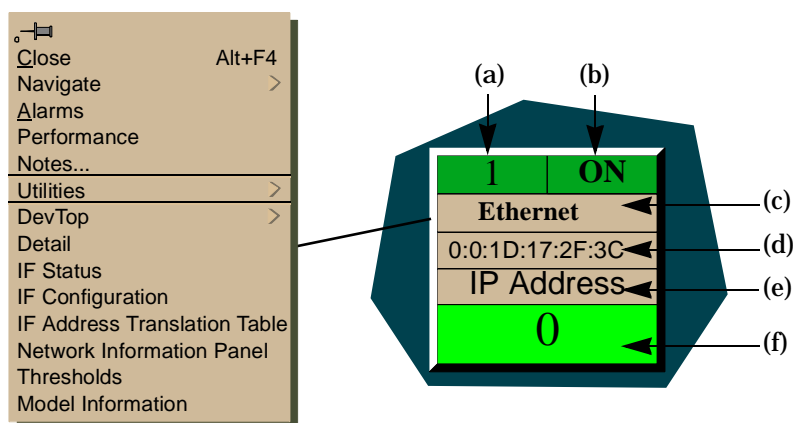
[Figure 2-7](#) provides an example of the Bridge Interface icon, its Icon Subviews menu, and its labels/double-click zones.



The callouts (a through f) displayed in the illustration below identify the label and the view to which it provides double-click access. Example: MAC Address Label/CSIdtrInterface Port Model Information View displays the MAC or physical address and provides double-click access to the CSIdtrInterface Port Model Information View.

The menu displayed in the illustration is the Icon Subviews menu for that Interface icon.

Figure 2-7. **Interface Icon**



- a. *Interface Number Label/Device Topology View*
- b. *Administrative Status Label/Interface Status View*
- c. *Port Type Label/Interface Configuration View*
- d. *MAC Address Label*
- e. *Network Information Label/Network Information Panel*
- f. *Gauge Label/IfPort Performance View*

Interface Number Label

This label displays the number identifying the interface. Double-click on this label to access the Bridge Device Topology (DevTop) view described in the ***SPECTRUM Views***.

Administrative Status Label

This label displays the status of this interface. Double-click this label to open the Interface Status View.

[Table 2-7](#) and [Table 2-8](#) list the possible states relative to the application selected. The default application for this view is Physical (MIB-II).

Table 2-7. Administrative Status for the Physical Application

Color	Status	Description
Green	ON	Port is operational.
Blue	OFF	Port is off.
Yellow	TST	Port is in the test mode.

Table 2-8. Administrative Status for the Bridging Application

Color	Status	Description
Green	FWD	Bridge port is forwarding.
Blue	DIS	Port is disabled.
Magenta	LST	Bridge is in the listening mode.
Magenta	LRN	Bridge is in the learning mode
Orange	BLK	Bridge port is in the blocking mode.
Red	BRK	Bridge port is broken.
Blue	???	Status is unknown.

Port Type Label

This label displays the type of hardware interface or port; for example, Reg1822, Prot10MB, PPP, T1, etc. For a complete listing of all interface types, refer to the ***SPECTRUM Views***.

MAC Address Label

This label displays the MAC or physical address of the interface.

Network Information Label

This label displays user-selectable network information (Address, Name, or Mask). The default is Address.

To change this label's display, use the [Interface Options Panel](#) or do the following:

1. Double-click the label to open the Network Information Panel.
2. Click the network information entry you wish to display.
3. Click **OK**.

Gauge Label

This label displays the performance statistic determined by the [Gauge Control Panel](#) for this interface. Double-click this label to open the Performance view described in the ***SPECTRUM Views***.

Interface Options Panel

This area of the Interface Device view (see [Figure 2-8](#)) allows you to modify the presentation of a highlighted Interface icon. Double-click a non-text area of this panel to open the Gauge Control Panel, described below. The Interface Options panel provides the following information:

Filter

This menu button allows you to select the application to be displayed by the Interface icons. You can leave the default Physical or select Bridging. You can also select other applications such as IP routing if the SPECTRUM Routing Services Management Module is loaded. For more information, refer to the ***Routing Services Management Module Guide***.

Network Information

This menu button allows you to select the type of information displayed in the Network Information label of the highlighted Interface icon. Possible selections are ADDRESS, NAME, or MASK.

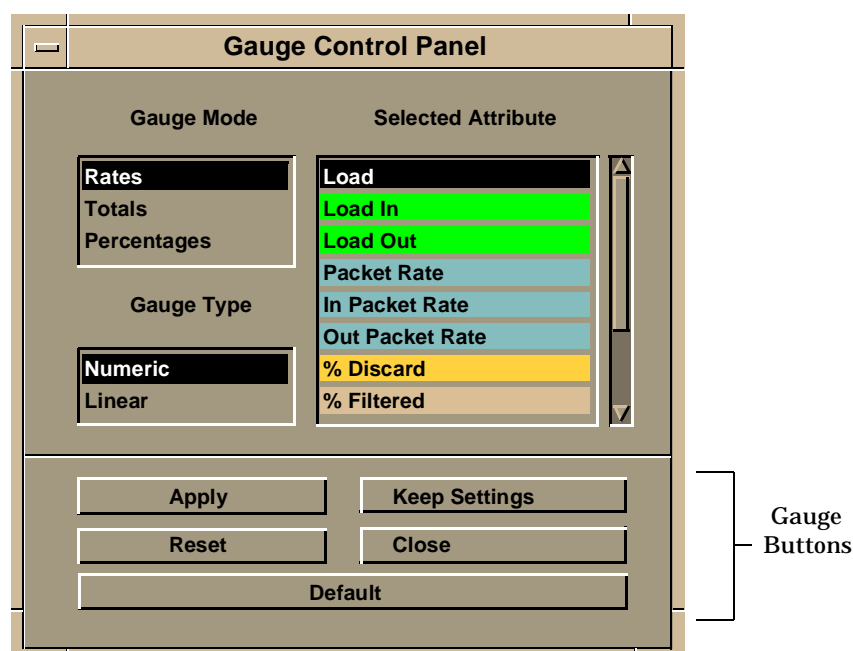
Interface Description

This field provides a description of the interface. If no Interface icon is highlighted, this field is empty.

Gauge Control Panel

This panel ([Figure 2-8](#)) allows you to change the type of statistical information displayed on the Gauge label of the Interface icon. To access the Gauge Control Panel, double-click the background of the Interface Options panel or do the following:

1. Highlight the Interface Options panel.
2. From the Icon Subviews menu, select **Gauge Control Panel**.

Figure 2-8. Gauge Control Panel

The Gauge Control Panel provides the following:

- Gauge Mode
- Selected Attribute
- Gauge Type
- Gauge Buttons

Gauge Mode

This area allows you to select the type of information shown on the *Gauge Label* of the Interface icon: Rates, Totals, or Percentages. The Percentages selection displays the percentage of the selected interface compared to the rest of the interfaces.

The color displayed on the Gauge Label depends upon the particular mode and statistical attribute selected. [Table 2-9](#) and [Table 2-10](#) list the attributes and their corresponding colors for the Rates mode and Totals mode, respectively.

Table 2-9. Rate Gauge Mode: Attributes and Corresponding Color

Selected Attribute	Color
Load	Green
Load In	Green
Load Out	Green
Packet Rate	Blue
In Packet Rate	Blue
Out Packet Rate	Blue
% Discard	Tan
% Filtered	Gray
% Forwarded	Violet
% Host Bound	Yellow
% Error	Orange
% Transmitted	White

Table 2-10. Totals Gauge Mode: Attributes and Corresponding Color

Selected Attribute	Color
Errors	Orange
In Packets	Blue
Out Packets	Blue
In Octets	Green
Out Octets	Green
Discards	Tan
Forwarded	Purple
Host Bound	Yellow
Transmitted	White
Filtered	Gray

Selected Attribute

This area allows you to select the statistical attribute displayed on the Interface icon's Gauge label. The label changes color to reflect the attribute selected.

Gauge Type

This option allows you to select either a numeric or linear display on the Gauge label.

Gauge Buttons

The following describes the Gauge buttons:

Apply

Applies the current settings to the Gauge label temporarily but does not save the settings.

Keep Settings

Saves the current settings while using SpectroGRAPH. Settings return to default when you restart SpectroGRAPH.

Reset

Returns the settings to the previously saved values.

Close

Closes the Gauge Control Panel.

Default

Returns the settings to the SPECTRUM default.

Configuration Views

What is in this Chapter

This chapter describes the following Configuration menu selections and views available for the SynOptics Model 3000 Series Management Module:

- **NMM Nodes**

- *SynOptics Token Ring Show Nodes Table View*
- *SynOptics Token Ring Find Nodes Table View*

- **Ethernet Configuration**

- *SynOptics Ethernet Frames and Errors View*
- *SynOptics Ethernet Frame Sizes and Protocols View*
- *SynOptics Ethernet NMM Table View*
- *SynOptics Ethernet Host Table View*
- *SynOptics Ethernet Threshold Table View*

- **Token Ring Configuration**

- *SynOptics Token Ring Station Table View*
- *SynOptics Token Ring Total Errors Table View*
- *SynOptics Token Ring Station Isolating Errors View*
- *SynOptics Token Ring Station Non-Isolating Errors View*
- *SynOptics Token Ring NMM Topology Table View*
- *SynOptics Token Ring NMM Configuration View*

- **FDDI Configuration**

- *SynOptics FDDI NMM Ring Status View*
- *SynOptics FDDI NMM Station Worst Errors View*
- *SynOptics FDDI NMM SRF Event Counters View*
- *SynOptics FDDI NMM SRF Condition View*
- *SynOptics FDDI NMM Ring Topology View*
- *SynOptics Physical Topology Trunk View*
- *SynOptics Physical Topology Node View*
- *SynOptics NMM Optical Bypass Switch View*

- **Device Configuration**

- *SynOptics Configuration View*
- *SynOptics Agent Download View*
- *SynOptics Agent Protocol Configuration View*
- *SynOptics Agent Configuration View*
- *SynOptics Agent Hardware View*
- *SynOptics IP Trap Receiver View*
- *SynOptics IPX Trap Receiver View*

- *SynOptics Chassis Configuration View*

- ***SynOptics Ethernet Local Bridge Configuration View***

See Chapter 1, *Introduction*, for information on *Accessing SPECTRUM Views*.

NMM Nodes

This menu selection from the device icon provides access to the following NMM nodes views. To access these views, select **NMM Nodes** from the Icon Subviews menu for the device and then one of the following menu/view selections:

- **Show Nodes**/*SynOptics Token Ring Show Nodes Table View*
- **Find Nodes**/*SynOptics Token Ring Find Nodes Table View*

SynOptics Token Ring Show Nodes Table View

This table contains a list of all of the active nodes that are currently connected to the ring through this concentrator. To access this view, select **Show Nodes** from the NMM Nodes menu for the device icon.

Module

The board number.

Port

The port number.

Address

The physical MAC address.

Vendor

The vendor of the device connected to that port. This is determined from the MAC address.

SynOptics Token Ring Find Nodes Table View

This table contains a list of all of the active nodes that are currently connected to the ring through this concentrator. The Show Nodes and Find Nodes tables differ in their indexing. The Find Nodes table identifies a module and port for a given NMM's interface and a given MAC address. To access this view, select **Find Nodes** from the NMM Nodes menu for the device icon.

Module

The module number.

Port

The port number.

Address

The physical (MAC) address.

Vendor

The vendor of the device connected to that port. This is determined from the MAC address.



If you get a message that the view is not available at this time, you may have to cause the model to be reconfigured by selecting Reconfigure from the Application View Edit menu. If you are installing over an existing Ethernet or Token Ring version, you must reconfigure to open the Chassis Configuration View.

Ethernet Configuration

This menu selection provides access to the following views. These views contain network configuration information for the SynOptics Model 3000 Series Ethernet hub device. To access these views, select **Ethernet Configuration** from the Icon Subviews menu for the device and then one of the following menu/view selections.

- **Frames and Errors**/*SynOptics Ethernet Frame Sizes and Protocols View*
- **Frame Sizes and Protocols**/*SynOptics Ethernet Frame Sizes and Protocols View*
- **NMM Table**/*SynOptics Ethernet NMM Table View*
- **Host Table**/*SynOptics Ethernet Host Table View*
- **Threshold**/*SynOptics Ethernet Threshold Table View*

SynOptics Ethernet Frames and Errors View

This view displays pie chart statistics for frames and error breakdowns. For information on pie charts refer to the ***SPECTRUM Views***. This view also displays the following information:

Board

A unique value for each board.

Port

The media connection type for this port.

Link

Whether the port is receiving link status.

Intercon

Whether the port is connected to a host or to an interconnect.

Part Status

The operational status of the port. Possible values are: enabled, partition, autopartition, timedpartition, latSecPartition.

Good Frames

The number of good frames.

Alignment

A count of frames received by the concentrator that are not an integral number of octets in length and do not pass the FCS check.

FCS

A count of frames received by the concentrator that are an integral number of octets in length that do not pass the FCS check.

Runts

A count of frames received by the concentrator that are less than the minimum permitted frame size and have a good FCS.

Giants

The number of giants.

OOW

The number of OOWs.

Collisions

A total count of the late collisions.

SynOptics Ethernet Frame Sizes and Protocols View

This view displays pie chart statistics for frames and protocols. For information on pie charts refer to the ***SPECTRUM Views***.

SynOptics Ethernet NMM Table View

The SynOptics Ethernet NMM Table view provides a list of all the active MAC addresses that are currently connected to a specified segment identified by an interface on an NMM, and are directly connected to a host port on the chassis or are a MAC on a board in the chassis. The NMM Table view provides the following information:

Module

The module number.

Port

The port number.

Address

The physical (MAC) address.

Vendor

The vendor of the device connected to that port. This is determined from the MAC address.

SynOptics Ethernet Host Table View

This view displays the following information:

Slot

The board index that the host is connected through.

Port

The port index that the host is connected through.

Type

The type of address that is stored in the Net Addr for this device.

Net Addr

The network address (in network order) of the MAC/Network address pair.

MAC Address

The network address (in canonical order) of the MAC/Network address pair.

Vendor

The vendor of the device connected to that port. This is determined from the MAC address.

Learn

The method that was used to discover the MAC/Network address pair.
Possible methods are:

- Other - unknown method
- arpRequest - ARP request packets
- arpResponse - ARP response packets
- ripRequest - RIP request packets
- ripResponse - RIP response packets

Time Stamp

The value of sysUpTime when the MAC/Network address pair was last observed on the segment.

SynOptics Ethernet Threshold Table View

The Thresholds Table View provides the following information:

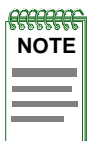
Index

The index into the Threshold table.

Object

Specifies the part of the concentrator the threshold applies. Possible values are:

- Other- Unknown threshold error.
- Port- Applies to a specific port in the concentrator.
- Ring- Applies to the ring to which the NMM is connected.
- Station- Applies to a specific station identified by the MAC address.



All values are read-write with the exception of “other” which is read-only.

Slot

Displays the slot number of the port being monitored by the threshold.

Port

Displays the port number of the port being monitored by the threshold.

Type

Determines which type of threshold applies to this entry. The possible values are:

- Applicable to the Ring and Station thresholds only:
 - lineError- Count of line errors.
 - burstError- Count of burst errors.
 - arcFciError- Count of ARI FCI errors.
 - recvCongestionErr- Count of receive congestion errors.
 - frameCopyError- Count of frame copy errors.
 - tokenError- Count of token errors.
 - lostFrame- Count of lost frame errors.
 - beaconing- Count of beacon frames.
- Applicable to Ring thresholds only:
 - goodOctets- Count of good bytes.
 - goodFrames- Count of good frames.
 - utilization- Total byte count of all good and bad frames seen per second, divided by the ring speed in bytes per second.
- Applicable to Station thresholds only:
 - stationInserts- Station inserted into the NMM's ring.
 - stationDeinserts- Station deinserted from the NMM's ring.
- Applicable to the Port thresholds only:
 - portPhantomStatus- Phantom signal has changed from off to on or visa-versa.



The value of **Other** can only be read, and it indicates the entry has an invalid or unknown threshold type.

Condition

Conditions that set off the threshold. The possible values are:

- other- None of the following.
- crossValue- The actual value crosses the set value (i.e., either from lower to higher or higher to lower).
- overValue- The actual value/sec is greater than the set value/sec.
- overRate- The rate of the Actual Value/second is greater than the Set Value/second.
- phantomOn- The phantom signal of the port has changed to On.
- phantomOff- The phantom signal of the port has changed to Off.

The values threshold Condition can have is actually dependent on the value of the threshold Type. [Table 3-1](#) shows the valid combinations between the two objects.

Table 3-1. Threshold Condition

Threshold Type	Allowed Values for Threshold Condition
lineError (2)	Possible values are 2,3, or 4.
burstError (3)	Possible values are 2,3, or 4.
arcFciError (4)	Possible values are 2,3, or 4.
recvCongestionErr (5)	Possible values are 2,3, or 4.
frameCopyError (6)	Possible values are 2,3, or 4.
tokenError	Possible values are 2,3, or 4.
lostFrame (8)	Possible values are 2,3, or 4.
beaconing (9)	Possible values are 2,3, or 4.
goodOctets (10)	Possible values are 2,3, or 4.
goodFrames (11)	Possible values are 2,3, or 4.
utilization (12)	Possible values are 2 or 3.
stationInserts (13)	Any value is possible.
stationDeinserts (14)	Any value is possible.
portPhantomStatus (15)	Possible values are 5 or 6.

When the condition specified is **crossValue** or **overValue**, the Actual value is accumulated from the beginning of the duration window and is checked every five seconds.

When the condition specified is **overRate** and the duration is less than or equal to five seconds, the Actual value is based on the data accumulated during the five second sampling period.

When the condition specified is **overRate** and the duration is greater than five seconds, the Actual value is based on the data accumulated during the entire duration window.

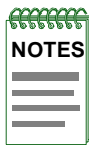
Set Value

Threshold setting value. This value must be set to a number greater than zero for the following types of thresholds:

- lineError
- burstError
- arcFciError
- recvCongestionErr
- frameCopyError
- tokenError
- lostFrame
- beaconing
- goodOctets
- goodFrames
- utilization

Actual Value

Current value of the threshold counter. This value is set to zero at the beginning of each duration window.



If the type of threshold is **station**, and the station is not on the same ring as the NMM, this value will remain at zero, which will prevent the threshold condition from ever being met.

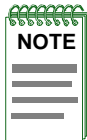
This object is not used for evaluating the threshold condition, and will remain at zero if the type of threshold is **port**.

Action

Determines which action is to take place if the threshold condition occurs. The possible values that can be read and written are listed below for each threshold type:

- Port, Ring, and Station thresholds:
 - noAction- Take no action.
 - sendTrap- Send a trap.
- Port thresholds only:
 - partSlotPort- Partition the port identified by the threshold **Slot** entry and the threshold **Port** entry.
 - trapPartSlotPort- Send a trap and partition the port identified by the threshold **Slot** entry and the threshold **Port** entry.

- Station thresholds only:
 - removeMAC- Send Remove MAC frame to station identified by MAC address contained in the threshold MAC Address.
 - trapRemoveMAC- Send a trap and then send a Remove MAC frame to the station identified by the MAC address contained in the threshold MAC Address.



The timing and frequency of the action taken when the threshold condition is met is dependent upon the threshold Condition value and the length of the duration window.

- If the threshold Condition is **crossValue**, the action will be taken only once during the durationwindow of the sampling period in which the condition is first met.
- If the threshold Condition is **overValue**, the action will be taken at each sampling period in which the condition is met until the end of the duration window.
- If the threshold Condition is **overRate**, the action will be taken only once at the end of the duration window if the condition is met.

Exceed Count

Counter for how many times the settled threshold has reached its setting value.

Add Threshold

The Add Threshold buttons allow you to add or change information to the ring, station, or port as follows:

1. Click the applicable button.
2. Within the view that opens, make any changes to, or add new thresholds as needed.
3. From the File Menu, **Save Changes**.

The Ring and Station views display the following additional information:

Token Ring Configuration

This menu selection provides access to the following views. These views contain network configuration information for the SynOptics Model 3000 Series Token Ring hub device. To access these views, select **Token Ring Configuration** from the Icon Subviews menu for the device and then one of the following menu/view selections.

- **Station Table**/*SynOptics Token Ring Station Table View*
- **Station Total Errors**/*SynOptics Token Ring Total Errors Table View*
- **Station Non-Isolating Errors**/*SynOptics Token Ring Station Non-Isolating Errors View*
- **NMM Topology Table**/*SynOptics Token Ring NMM Topology Table View*
- **TR NMM Configuration**/*SynOptics Token Ring NMM Configuration View*
- **Threshold**/*SynOptics Ethernet Threshold Table View*

SynOptics Token Ring Station Table View

This view displays pie chart statistics for isolating and non-isolating. For information on pie charts refer to the ***SPECTRUM Views***. This view also displays the following information:

MAC Address

The MAC address of the station.

Slot

The board index that the host is connected through.

Port

The number identifying the port.

Beacon Status

The beaconing status of the station.

Functional Addr

The functional address used by the station (this value may or may not be the station's MAC address).

Classes

Specifies the functional classes allowed to be active in the station.

Priority

The maximum priority the station is allowed to use.

Group Address

The group address of the station.

Station ID

An octet string used to uniquely identify the station.

SynOptics Token Ring Total Errors Table View

This view displays pie chart statistics for isolating and non-isolating errors. For information on pie charts refer to the ***SPECTRUM Views***. This view also displays the following information:

MAC Address

The MAC address of the station.

Line

The number of line errors.

Burst

The number of burst errors.

Ar

The number of ARI FCI errors.

Abort

The number of abort delimiter errors.

Internal

The number of internal errors.

Lost Frm

The number of lost frames.

Congestion

The number of receive congestion errors.

Frm Copy

The number of frame copy errors.

Token

The number of token errors.

Frequency

The number of frequency errors.

SynOptics Token Ring Station Isolating Errors View

This view displays pie chart statistics for isolating and non-isolating errors. For information on pie charts refer to the ***SPECTRUM Views***. This view also displays the following information:

MAC Address

The MAC address of the station.

Slot

The board index that the host is connected through.

Port

The number identifying the port.

Line

The number of line errors.

Burst

The number of burst errors.

Ar

The number of ARI FCI errors.

Abort

The number of abort delimiter errors.

Internal

The number of internal errors.

SynOptics Token Ring Station Non-Isolating Errors View

This view displays pie chart statistics for isolating and non-isolating errors. For information on pie charts refer to the ***SPECTRUM Views***. This view also displays the following information:

MAC Address

The MAC address of the station.

Slot

The board index that the host is connected through.

Port

The number identifying the port.

Lost Frm

The number of lost frames.

Congestion

The number of receive congestion errors.

Frm Copy

The number of frame copy errors.

Token

The number of token errors.

Frequency

The number of frequency errors.

SynOptics Token Ring NMM Topology Table View

This view provides a list of all the active MAC addresses that are currently connected to a specified segment identified by an interface on an NMM, and are directly connected to a host port on the chassis or are a MAC on a board in the chassis. The NMM Table view provides the following information:

Module

The module number.

Address

The physical (MAC) address.

Vendor

The vendor of the device connected to that port. This is determined from the MAC address.

SynOptics Token Ring NMM Configuration View

This view provides the following configuration information for this device:

Module

The number of the slot containing the module.

Network

You may enter the flat network number that this NMM is part of.

Segment

The segment number (in the concept of Token Ring the segment means the ring) that this NMM is connected to.

Ring Status

The status of the ring.

Ring

The identifying number of the ring.

Ring Speed

The speed at which the hub is configured to operate.

FPU Revision

The revision number of the front end processing unit.

FPU Status

The status of the front end processing unit.

DRAM Size

The highest address of DRAM in the NMM memory map.

EEPROM Size

The size of the EEPROM in the NMM memory map.

EPROM Size

The size of the EPROM in the NMM memory map.

FDDI Configuration

This menu selection provides access to the following views. These views contain network configuration information for the SynOptics Model 3000 Series FDDI hub device. To access these views, select **FDDI Configuration** from the Icon Subviews menu for the device and then one of the following menu/view selections.

- **NMM Ring Status**/*SynOptics FDDI NMM Ring Status View*
- **Station Worst Errors**/*SynOptics FDDI NMM Station Worst Errors View*
- **Station SRF Event Counters**/*SynOptics FDDI NMM SRF Event Counters View*
- **Station SRF Condition**/*SynOptics FDDI NMM SRF Condition View*
- **NMM Ring Topology**/*SynOptics FDDI NMM Ring Topology View*
- **Physical Topology Trunk**/*SynOptics Physical Topology Trunk View*
- **Physical Topology Node**/*SynOptics Physical Topology Node View*
- **NMM Optical Bypass Switch**/*SynOptics NMM Optical Bypass Switch View*

SynOptics FDDI NMM Ring Status View

This view provides the following NMM Ring information:

Ring

The index associated with this ring.

Utilization

Ring utilization calculated using the MAC token count and ring latency on that path.

Wrap State

Indicates if the ring is wrapped.

State Duration

How long the ring has been in the above condition (wrapped or unwrapped).

SynOptics FDDI NMM Station Worst Errors View

This view provides LAN statistics information for the whole LAN. It provides information about each station's worst error rates on MACs and ports. It is indexed by station.

Worst Error Monitor Operational State

The operational state of the agent worst error monitor process.

Station ID

Station Id of the station with the worst LER errors and Frame errors.

Port w/Worst LER

The port on this station with the worst rate of LER errors.

LER Estimate

The worst LER estimate (long term average link error rate) on the above port.

MAC w/Worst Frame Error Rate

The MAC on this station with the worst rate of frame errors.

MAC Ratio

The worst ratio of frame errors on the above MAC. This value will be between 0 and 65535.

SynOptics FDDI NMM SRF Event Counters View

This view provides LAN statistics information for the whole LAN. It provides information about each station's conditions, events, and worst error rates on MACs and ports. It is indexed by station.

SRF Monitor Operational State

Indicates the operating status of this station (On or Off).

Station ID

Station ID of the station with the indicated conditions and events.

MAC Neighbor Changes

Number of times this station sees a MAC neighbor change.

MAC Path Changes

Number of times this station sees a path change on one of its MACs.

Port Undesired Connects

The number of times an undesired connection is attempted on this port.

Port Path Changes

The number of times this port changes path.

SynOptics FDDI NMM SRF Condition View

This view provides the following SRF condition information:

SRF Monitor Operational State

Indicates the operating status of this station (On or Off).

Station ID

Station ID of the station with the indicated conditions and events.

Peer Wrap State

Flag indicating if an SMT peer wrap condition has occurred.

MAC Dup Address

Flag indicating if a MAC address condition has been detected.

MAC Frame Err

Flag indicating if a MAC frame error condition has occurred.

MAC Not Copied

Flag indicating if a MAC not copied condition has occurred.

Port LER

Flag indicating if a Port Link Error condition has occurred.

Port EBE

Flag indicating if a port elastic buffer error condition has occurred.

SynOptics FDDI NMM Ring Topology View

This view provides the following NMM Ring Topology information:.

Interface IP

The IP address of the interface. This refers to the interface of the pulling NMM.

Network #

A unique value for each network. This is the network number where the pulled NMM resides.

IP Address

IP Address of this NMM entry. This refers to the NMM being pulled.

Chassis Type

The type of the chassis where this NMM resides. The enumerated values of this object are the same as defined in the common MIM for objects 3Chassis Type.

MAC Address

The MAC address this entry is for.

Backplane Type

The backplane type of the chassis of this NMM.

Upstream Neighbor

IP address of the upstream neighbor of the station associated with this entry. If unknown, then this object will contain 0.0.0.0.

SynOptics Physical Topology Trunk View

This view provides the following information on all of the stations in the trunk ring:

Physical Topology Operational State

On/Off

Station ID

Station ID of the node associated with this entry.

IP Address

IP address of the node associated with this entry.

Station State

Used to determine the current state of the node.

Station Type

Station type of this node.

Station Type Mask

Station Type Mask root node on trunk ring.

Slot

SynOptics slot number where the local NMM A/B/S ports reside.

SynOptics Physical Topology Node View

This view provides the following information for all stations in the trunk ring.

Physical Topology Operational State

On/Off

Station ID

Station ID of the node associated with this entry.

IP Address

IP address of the node associated with this entry.

Station Type Mask

Station Type Mask for this node.

Num Parents

Contains the number of parent stations of this concentrator/station.

Parent Cloud Mask

Bit mask indicating if any of the parents is a cloud.

Num Children

Contains the number of parent stations of this child concentrator or station (a maximum of 100 ports for FDDI Phase II.)

SynOptics NMM Optical Bypass Switch View

This view displays the following information used to control the Optical Bypass Switch:

SMT Index

The value of the SMT index associated with this attachment.

Optical Bypass Switch Index

A unique value for each optical bypass switch.

Partition Status

Optical bypass switch partition status.

Partition Timer

Optical Bypass Switch partition timer. When this object is set to default (0), the concentrator can be removed permanently from the trunk ring by setting the object s3FDDIAttachPartitionStatus to on/partitioned (1).

Bypass Present

Indicates whether an optical bypass switch is inserted.

Device Configuration

This menu selection provides access to the following views. These views contain network configuration information for the SynOptics Model 3000 Series hub device. To access these views, select **Device Configuration** from the Icon Subviews menu for the device and then one of the following menu/view selections.

- **Configuration View**/[SynOptics Configuration View](#)
- **Agent Download**/[SynOptics Agent Download View](#)
- **Agent Protocol**/[SynOptics Agent Protocol Configuration View](#)
- **Agent Configuration**/[SynOptics Agent Configuration View](#)
- **Agent Hardware**/[SynOptics Agent Hardware View](#)
- **IP Trap Receivers**/[SynOptics IP Trap Receiver View](#)
- **IPX Trap Receivers**/[SynOptics IPX Trap Receiver View](#)

SynOptics Configuration View

This view provides the following information:

Flash Status

Indicates the operational status of the flash device of the agent. A Fail indicates that either the flash device configuration on board is not valid or the flash electrically erasable programmable read only memory (EEPROM) on the board has failed. Options are Fail, OK, or Other.

Agent CPU Idle Time

Displays the count of the idle time of the agent in *days+hours:minutes:seconds*.

Unauthorized IP Address

Displays the IP address of the last station that tried to access this agent with an invalid community string.

Unauthorized Community Name

Displays the community string of the last unauthenticated attempt to access this agent.

Unauthorized IPX Address

Displays the IPX address of the last unauthenticated attempt to access this agent.

SynOptics Agent Download View

The SynOptics Agent Download view is divided into two major sections and provides the following information:

Current Information

Agent Status

Indicates the network management module online status.

Boot Protocol

Indicates the boot protocol used to load the module with its software.

Image Actual Source

Indicates whether the agent loaded code from the network or used a local image. When the Image Load Mode is Local_As_Backup, this variable indicates whether the network load was successful. Options are Other, Remote_Image, or Local_Image.

Agent Mode

Provides a button that allows you to modify the module mode. You may select Primary, Secondary, or Other.

Local Image Status

Indicates whether the agent has a valid local code image on board. An EPROM checksum failure would cause the agent to return Invalid. This may display as Other, Valid, or Invalid.

Agent Configuration Actual Source

Indicates whether the agent loaded configuration data from the network or used the local configuration data.

Next Boot

Image Load Mode

Provides a button that allows you to indicate whether the agent should get configuration data from the network (Remote_Boot), use the local configuration data (Local_Image), or try the network first and then fall back to local configuration if the network load fails (Local_As_Backup). This object applies only to agents with boot prom support for agent configuration load options. This parameter will not take effect until written into EEPROM and a reset is issued.

Boot Mode

Provides a button that allows you to select the boot mode. You may select from BOOTP or EEPROM.

Boot File

Allows entry of the name of the boot file that is sent to the file server during boot time.

Agent Configuration Source

Provides a button that allows you to select whether the agent should get configuration data from the network (Remote_Config), use the local configuration data (Local_Config), or try the network first and then fall back to local configuration if the network load fails (Local_As_Backup). This object

applies only to agents with boot prom support for agent configuration load options. This parameter will not take effect until written into EEPROM and a reset is issued.

Boot Server IP Address

Allows entry of the IP address to which the requests for boot files are sent.

Boot Router IP Address

Allows entry of the default router IP address used at boot time to download the NMM's agent configuration and image files from the TFTP server. This parameter will not survive a reset unless it is written into EEPROM.

Restart

Provides a button that allows you to restart the agent status. You may select Not_Restarting or Restarting. Writing a restart to this object restarts the NMM. This initializes all the counters, re-reads the EEPROM data structure and starts executing from the beginning of the code.

Reset

Provides a button that allows you to reset the agent status. You may select Not_Resetting or Resetting. Writing a reset to this object resets the NMM and performs a download and restart.



Updating the Reset or Restart field restarts the hub and causes momentary network interruption.

Write Configuration Settings to NVRAM

Provides a button that allows you to write the configuration settings to NVRAM. You may select Not_Writing or Writing.

SynOptics Agent Protocol Configuration View

The SynOptics Agent Protocol view provides the following information:

Agent Status

Displays the network management module online status.

Agent Mode

Provides a button that allows you to modify the module mode. You may select Primary, Secondary, or Other.

IP Address

Allows entry of the Agent's administrative IP address.

Network Mask

Allows entry of the Agent's administrative subnet mask.

IPX Address

Allows entry of the Agent's administrative IPX address.

Ping Default Router Switch

Provides a button that allows you to control whether the agent periodically sends out the ICMP echos (pings) to the default router(s). You may select from Other (unknown or other), On (agent periodically sends out pings to the default router(s)), or Off (agent will not send out the pings to the default router(s)).

Ping Default Router Time

Allows entry of the time interval that the agent uses to send out the pings periodically to the default router(s) to check if the router(s) are still reachable.

Management Protocol Mode

Provides a button that allows you to indicate the network transports over which the agent accepts SNMP requests. This object only applies to agents with IP and IPX dual stack support. This parameter will not take effect until written into EEPROM and a reset or a restart is issued. You may select from Other, IP, IPX, or IP_and_IPX.

Actual Management Protocol Mode

Indicates the network transports over which the agent currently accepts SNMP requests.

Default Gateway

Allows entry of the Agent's administrative default gateway IP address.

Secondary Default Gateway

Allows entry of the agent's administrative secondary default gateway IP address. This default gateway's IP address is used when the primary default gateway is determined unreachable.

Authorization Trap

Provides a button that allows you to Enable or Disable the use of authentication error trap generation.

Reset

Provides a button that allows you to reset the agent status. You may select Not_Resetting or Resetting. Writing a reset to this object resets the NMM and performs a download and restart.

Restart

Provides a button that allows you to restart the agent status. You may select Not_Restarting or Restarting. Writing a restart to this object restarts the NMM. This initializes all the counters, re-reads the EEPROM data structure, and starts executing from the beginning of the code.



Updating the Reset or Restart field restarts the hub and causes momentary network interruption.

Write Configuration Settings to NVRAM

Provides a button that allows you to write the configuration settings to NVRAM. You may select Not_Writing or Writing.

SynOptics Agent Configuration View

The SynOptics Agent Configuration view provides the following configuration information:

Agent Status

Indicates the network management module online status.

Agent Mode

Provides a button that allows you to modify the module mode. You may select Primary, Secondary, or Other.

Module

Indicates the number of the hub slot that currently contains the agent.

Feature Level

Displays the current feature level of the agent.

MIB Level

Indicates the current MIB release supported by the agent.

Software License Code

Displays the software license code assigned to this agent. This code is required for initializing the agent.

Firmware Version

Indicates the agent's module firmware.

Software Major Version

Displays the agent's major module software version number.

Minor Version

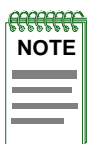
Displays the agent's minor module software version number.

Maintenance Version

Displays the agent's maintenance module software version number.

Local Image Status

Indicates whether the agent has a valid local code image on board. An EPROM checksum (see description of this term in the NOTE below) failure would cause the agent to return Invalid. This may display as Other, Valid, or Invalid.



A checksum is a CRC algorithm which determines the validity of files. An EPROM checksum indicates whether the agent has a valid local code image.

Local Image Major Version

Displays the major software version number of the locally-stored image.

Minor Version

Displays the minor software version number of the locally-stored image.

Maintenance Version

Displays the maintenance software version number of the locally-stored image.

SynOptics Agent Hardware View

The SynOptics Agent Hardware view provides the following information:

Agent Status

Indicates the network management module online status.

Agent Mode

Provides a button that allows you to modify the module mode. You may select Primary, Secondary, or Other.

Baud Rate

Allows entry of the module baud rate of the internal modem or RS-232 port.

Medium Dependent Adaptor Hardware Version

Displays the module medium dependent adaptor (MDA) hardware version number.

Initial String

Allows entry of the string used to establish the out-of-band connection.

EPROM Size

Indicates the size of the EPROM of the agent, in bytes.

EEPROM Size

Indicates the size of the EEPROM of the agent, in bytes.

DRAM Size

Indicates the size of the DRAM of the agent, in bytes.

Hexadecimal Display

Provides the current 4 ASCII character display of the agent. Agents with no hex display hardware should return a zero length string.

Restart

Provides a button that allows you to restart the agent status. You may select Not_Restarting or Restarting. Writing a restart to this object will restart the NMM. This initializes all the counters, re-reads the EEPROM data structure, and starts executing from the beginning of the code.

Reset

Provides a button that allows you to reset the agent status. Selections are Not_Resetting or Resetting. Writing a reset to this object will reset the NMM and perform a download and restart.



Updating the Reset or Restart field restarts the hub and causes momentary network interruption.

Write Configuration Settings to NVRAM

Provides a button that allows you to write the configuration settings to NVRAM. You may select Not_Writing or Writing.

SynOptics IP Trap Receiver View

The SynOptics IP Trap Receiver view provides a table of NMMs that are to receive traps generated by this NMM. Double-click any entry to open the SynOptics IP Trap Receiver Table, which provides the same information (except that it contains no status field) in a modifiable format and allows you to delete an entry.

This view provides the following information:

Status

Displays the action status for the entry. Setting to Invalid removes the entry from the table and disassociates the address identified with the entry.

Network Address

Displays the IP address for trap server that is to receive the trap.

Community Name

Displays the community string used for traps sent to this trap receiver.

Age Time

Displays the time interval used to age entries out of the trap receiver table. The default value, if not specified, will be 0 or infinite, never to be aged out.

Add IP Trap Receiver Table Entry

Opens the SynOptics IP Trap Receiver Add Entry view. This view allows you to enter the information in the IP Trap Receivers Table for an entry.

SynOptics IPX Trap Receiver View

The SynOptics IPX Trap Receivers view provides a list of NMSs that are to receive traps generated by this NMM sent over IPX. Double-click any entry to open the SynOptics IPX Trap Receiver Entry view which provides the same information (except status) in a modifiable format and allows you to delete an entry.

This view provides the following information:

Status

Indicates the action status for the entry.

IPX Address

Displays the IPX address for trap server that is to receive the trap. The value may only be written when the row is created. This is written in the format network:host, with the network eight hexadecimal digits, and the host twelve hexadecimal digits.

Community Name

Displays the community string used for traps sent to this trap receiver.

Age Time

Indicates the time interval used to age entries out of the trap receiver table. The default value, if not specified, will be 0 or infinite, never to be aged out.

Add IPX Trap Receiver Table Entry

Opens the SynOptics IPX Trap Receiver Add Entry view. This view allows you to enter the information in the IPX Trap Receivers Table for an entry.

SynOptics Chassis Configuration View

This view provides the following information about the chassis in addition to the Module Configuration Table described below. You can access this view by selecting **Chassis Configuration** from the Icon Subviews menu.

Power Status

The status of the hub power supply. This may display as OK, PrimaryFail, SecondaryFail, or BothFail.

Device Type

The chassis type.

Backplane Type

The type of backplane on the chassis.

Backplane Ethernet Channel Division

A value that describes the divisions of the segmentable ethernet channel. The value is a sum (i.e., integer bit string). This value initially takes the value of

zero, then for each division that is enabled on the channel, 2 raised to a power is added to the sum. The powers are according to the following table:

Division between Power
Slots 4 and 5 0
Slots 6 and 7 1
Slots 8 and 9 2

For example, a channel with no divisions enabled (i.e., not segmented) would have a value of 0. A channel with divisions between slots 6 and 7, and slots 8 and 9 enabled (i.e., having three segments) would have a value of 6 ($2^1 + 2^2$).

Fan Status

The status of the hub cooling fan.

Power Supply Type

The type of power supply.

Backplane Revision

The backplane revision for the hub.

Ethernet Channel Type

This will display as Segmentable for the 3000N, 3000NT, 3000S, 3000SR, and any other backplanes in which Ethernet channel A can be divided into multiple segments. The value aNotSegmentable indicates that the Ethernet backplane channel A cannot be segmented. For Token Ring or FDDI workgroup concentrators, or other devices in which there is no Ethernet channel, the agent will return other.

Redundant Power Supply

Clicking on this button opens the SynOptics Redundant Power Supply view described later in this section.

Module Configuration Table

The SynOptics Chassis Configuration view also provides a Module Configuration Table. Double-clicking on an item in any column opens the SynOptics Module Configuration view, described later in this section. The Module Configuration Table provides the following information:

Module

The position of the module within the chassis.

Module Description

A description of the module, including the module type.

SynOptics Module Configuration View

Double-clicking on an entry in the Module Configuration Table in the SynOptics Chassis Configuration view opens the SynOptics Module Configuration View. This view provides the following information:

Module Number

The number of the slot in the hub containing the module.

Module Type

The ID for the module. Values are specified in SynOptics technical documents.

Module Medium-Dependent ID

The ID of the medium-dependent part of the board. The value is board dependent. Values are specified in SynOptics technical documents.

Module Description

The model number and description of the module.

Board Hardware Version

The hardware revision of the module.

Board ID

The ID of the board, which is 'hard-coded' in the board, and identifies the board's basic functionality. Some boards have the capability to change aspects of their functionality, such as media type, interface types, or power supply wattages, by plugging in different daughter cards. Other boards may identify the type of cable plugged into them.

Board Status

Indicates the operational status of the module. This may display as OK or Fail.

Board Reset Status

This field provides a button that allows you to reset the status of the module. Options are Resetting or Not_Resetting.

Board Power Supply Status

The operational status of the board power supply. This may display as OK or Fail.

Board NM Control Status

Indicates whether the module is under network management control. The module, or one or more ports, may be controlled (partitioned) by network management.

Board Partition Status

This field provides a button that allows you to control whether the module is partitioned or enabled. Options are Enabled, Partitioned or Timed_Partition.

Partition Time (Seconds)

You must enter the duration value when partitioning the board for a specified time with the Timed_Partition option of Board Partition Status.

SynOptics Redundant Power Supply View

You can access this view by clicking on the **Redundant Power Supply** button in the SynOptics Chassis Configuration view. This view provides the following information:

Plus 5v Current (Amperes)

A gauge of the amperes of +5 V current from the power supply.

Plus 12v Current (Amperes)

A gauge of the amperes of +12 V current from the power supply.

Ambient Temperature Status

This indicates whether the ambient temperature is normal, i.e., below 40 degrees C. This may display as Other, Normal_Temperature, or Above_Normal_Temp.

Ambient Temperature (Celsius)

The ambient temperature of the power supply in Celsius.

Primary Configuration

The primary power supply type.

Secondary Configuration

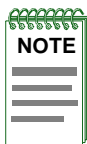
The secondary power supply type.

Diode Status

The status of the summing diode on the 3100R associated with the indicated power supply.

Power Alarm

This indicates whether the power supply is sensing voltage on the backplane.



If your hub does not have a redundant power supply, the information in this view will be red-boxed.

SynOptics Ethernet Local Bridge Configuration View

The SynOptics Ethernet Local Bridge Configuration view contains more detailed network configuration information for the SynOptics 332xS Bridge. This view provides the following information:

Bridge ID

Bridge MAC address.

Bridge Instances

Bridge instances present.

Bridge Mode

This field provides a button that allows you to select the current operating mode of bridge from Forward, Relay, Security or Listen.

Filter Matches

This field provides a button that allows you to select the action taken on the Range Filter Table match from Pass, Discard, or Disable.

Topology BPDU Timer

The seconds between generation of SynOptics Topology BPDUs.

Hold Time

The time before unacknowledge BPDUs will be resent.

Next Warm Start

Default Bridge Mode

This field provides a button that allows you to select the default operating mode of the bridge upon power up or restart. Options are Forward, Relay, Security or Listen.

Default Topology BPDU Timer

NVRAM value for the seconds between generation of SynOptics Topology BPDUs.

Default Hold Time

The values stored in non-volatile storage for the time before unacknowledge BPDUs will be resent.

Write Configuration Settings to NVRAM

This field provides a button that allows you to copy RAM parameter values to NVRAM.

Range Table

Clicking on this button opens the SynOptics Ethernet Local Bridge Range Table described below.

Spanning Tree Configuration

Clicking on this button opens the SynOptics Ethernet Local Bridge Spanning Tree Configuration described below.

Filter Table

Clicking on this button opens the SynOptics Ethernet Local Bridge Filter Table described below.

Clear Filter Table?

This field provides a button that allows you to clear the Filter Table.

Channel

Double click on channel A or B to open the SynOptics Ethernet Local Bridge Channel Table Entry Configuration view.

SynOptics Ethernet Local Bridge Range Table

You can access this table by clicking the **Range Table** button in the Ethernet Bridge Configuration view. This table provides information on the sources, destinations and bounds of the range of the bridge. Double-clicking on an entry opens a view that allows you to alter the information presented or delete the entry. The following information is provided:

Source Lower

The lower bound of source mac addresses.

Source Upper

The upper bound of source mac addresses.

Destination Lower

The lower bound of destination mac addresses.

Destination Upper

The upper bound of destination mac addresses.

Lower Bound

The lower bound of type field of mac frames.

Upper Bound

The upper bound of type field of mac frames.

Add Entry

Clicking on this button opens a view that allows you to enter the same information as above, and to make the entry valid.

SynOptics Ethernet Local Bridge Spanning Tree Configuration

You can access this table by selecting the **Spanning Tree Configuration** button in the Ethernet Bridge Configuration view. The following information is provided:

Bridge ID

Bridge MAC address.

Bridge Instances

Bridge instances present.

Protocol Version

The spanning tree algorithm currently in use in the bridge.

Live Hello Time

The current operational value, the same as the Root bridge's hello time.

Hello Time

The seconds between Spanning Tree Hello PDU transmissions.

Live Forwarding Delay

The time spent by the bridge in STP listening and learning states.

Forwarding Delay

The time that bridge ports spend in STP listening and learning states.

Live Maximum Age

The maximum age of the root bridge.

Maximum Age

The maximum seconds STP Hello PDU can exist before being discarded.

Priority

Spanning tree priority of the bridge.

Topology Change Count

STP network topology changes since last restart.

Next Warm Start

Default Protocol Version

NVRAM value of Spanning Tree algorithm.

Default Hello Time

NVRAM value for the seconds between Spanning Tree Hello PDU transmissions.

Default Forwarding Delay

The values stored in non-volatile storage for the time that bridge ports spend in STP listening and learning states.

Default Maximum Age

NVRAM value for the maximum seconds STP Hello PDU can exist before being discarded.

Default Priority

NVRAM spanning tree priority of the bridge.

Write Configuration Settings to NVRAM?

This field provides a button that allows you to copy RAM parameter values to NVRAM.

Spanning Tree Port Data

This table is provided at the bottom of the SynOptics Ethernet Local Bridge Spanning Tree Configuration view. It contains a list of bridge halves. The following information is presented:

Channel

A unique value for each bridge instance.

Path Cost

Value of path cost automatically by station.

Port Priority

STAP priorities of the port.

Designated Cost

Cost of path to root.

Designated Port

Port priority.

Designated Root

LAN address of the root bridge.

Designated Bridge

LAN address of the bridge.

SynOptics Ethernet Local Bridge Filter Table

Access this table by clicking the **Filter Table** button in the Ethernet Bridge Configuration view. Double-clicking on any entry opens a view that allows you to alter the information provided or delete the entry. The following information is provided:

Status

Filter status.

MAC Address

The MAC address in hexadecimal form.

Disposition

Filter Disposition byte.

Add Entry

Clicking on this button opens a view that allows you to add and validate an entry.

Clear Filter Table?

This field provides a button that allows you to clear the Filter Table.

Event and Alarm Messages

What is in this Chapter

This chapter describes the types of events and alarms generated by SynOptics Model 3000 Series devices and any probable cause messages corresponding to these alarms.

SynOptics Series 3000 Events and Alarms

This table describes the event messages appearing in the Event Log, and any corresponding probable cause messages that may be displayed in the Enterprise Alarm Manager for the SynOptics Model 3000 Series.

Table 4-1. SynOptics Series 3000 Events and Alarms

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00010203 {d "%w- %d %m-, %Y - %T"} - The model created is not the same type as the device. Model type = {t}, Name = {m}, User = {u}. (event [{e}]).	CsPCause/Prob00010203 The model created is not the same type as the device.
CsEvFormat/Event00010306 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has been cold started.	No probable cause message

Table 4-1. SynOptics Series 3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00010307 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has been warm started.	No probable cause message
CsEvFormat/Event00010308 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected a communication Link Down.	CsPCause/Prob00010308 Communication link is down.
CsEvFormat/Event00010309 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected a communication Link Up.	No probable cause message
CsEvFormat/Event0001030a {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected an Authentication Failure.	CsPCause/Prob0001030a Authorization failure. Other user is trying to connect to device with an invalid community string.
CsEvFormat/Event0001030b {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected an EGP Neighbor Loss. EGP Neighbor IP address is {0 1}.	CsPCause/Prob0001030b Lost contact with EGP neighbor.
CsEvFormat/Event36000100 {d "%w- %d %m-, %Y - %T"} - A failure has been detected in either the primary power supply, the secondary power supply, or both. The power supply status is {I 1}.	CsPCause/Prob36000100 A failure has been detected in either the primary power supply, the secondary power supply, or both.
CsEvFormat/Event36000101 {d "%w- %d %m-, %Y - %T"} - One or more fans are either non-operational or have an unknown operating status. The reported fan status is {I}.	CsPCause/Prob36000101 One or more fans are either non-operational or have an unknown operating status.
CsEvFormat/Event36000102 {d "%w- %d %m-, %Y - %T"} - A board failure has been detected by the Ethernet NMM. The board status is {I}.	CsPCause/Prob36000102 A board failure has been detected by the Ethernet NMM.

This table describes the event messages appearing in the Event Log, and any corresponding

Table 4-1. SynOptics Series 3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event36000103 {d "%w- %d %m-, %Y - %T"} - An Ethernet board power supply failure has been detected. The power supply status is {I}.	CsPCause/Prob36000103 An Ethernet board power supply failure has been detected.
CsEvFormat/Event36000104 {d "%w- %d %m-, %Y - %T"} - A port auto-partition condition has been detected. The port partition status is {I}. The port jabber status is {I}.	CsPCause/Prob36000104 A port auto-partition condition has been detected.
CsEvFormat/Event36000106 {d "%w- %d %m-, %Y - %T"} - The NMM is dropping packets due to an overload. The Rx status is {I}.	CsPCause/Prob36000106 The NMM is dropping packets due to an overload.
CsEvFormat/Event36000107 {d "%w- %d %m-, %Y - %T"} - A change has been detected in the operating status of a local bridge port. The port status is {I}.	No probable cause message
CsEvFormat/Event36000108 {d "%w- %d %m-, %Y - %T"} - A local bridge failure has been detected. The most recent LED diagnostic status is {O}.	CsPCause/Prob36000108 A local bridge failure has been detected.
CsEvFormat/Event36000109 {d "%w- %d %m-, %Y - %T"} - A change has been detected in the operating status of a remote bridge port. The port status is {I}.	Not Applicable
CsEvFormat/Event3600010a {d "%w- %d %m-, %Y - %T"} - A remote bridge failure has been detected. The most recent LED diagnostic status is {O}.	CsPCause/Prob3600010a A remote bridge failure has been detected.

Table 4-1. SynOptics Series 3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event3600010b {d "%w- %d %m-, %Y - %T"} - A board power supply failure has been detected. The power supply status is {I}.	CsPCause/Prob3600010a A board power supply failure has been detected.
CsEvFormat/Event3600010c {d "%w- %d %m-, %Y - %T"} - A change has been detected in a router's standby status. The standby status is {I}.	No probable cause message
CsEvFormat/Event3600010d {d "%w- %d %m-, %Y - %T"} - A router failure has been detected. The most recent LED diagnostic status is {O}.	CsPCause/Prob3600010d A router failure has been detected.
CsEvFormat/Event3600010e {d "%w- %d %m-, %Y - %T"} - A station on the ring is beaconing. The ring segment number is {I 1}. The Upstream Neighbor Address is {X 3}. The physical location of the node is {I 5}. {t} (name - {m}). (Trap type: 0x0e)-(event[{e}]).	CsPCause/Prob3600010e A station on the ring is beaconing.
CsEvFormat/Event3600010f {d "%w- %d %m-, %Y - %T"} - A new active monitor has been detected. The ring segment number is {I 1}. The Upstream Neighbor Address is {X 3}. Physical location of the node is {X 5}. {t} (name-{m}). (Trap type: 0x16)-(event [{e}]).	CsPCause/Prob3600010a A new active monitor has been detected.
CsEvFormat/Event36000110 {d "%w- %d %m-, %Y - %T"} - Board status LED off. Board status is {I 1}. {t} (name-{m}). (Trap type: 0x16)-(event [{e}]).	No probable cause message
CsEvFormat/Event36000111 {d "%w- %d %m-, %Y - %T"} - A station has inserted into ring {I 1}, upstream neighbor is {X 3}. {t} (name-{m}). (Trap type: 0x16)-(event [{e}]).	No probable cause message

This table describes the event messages appearing in the Event Log, and any corresponding

Table 4-1. SynOptics Series 3000 Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event36000112 {d "%w- %d %m-, %Y - %T"} - A station deinserted from ring {I 1}, upstream neighbor was {X 3}. {t} (name-{m}). (Trap type: 0x16)-(event [{e}]).	No probable cause message
CsEvFormat/Event00010401 {d "%w- %d %m-, %Y - %T"} - Device {m} of type {t} is created with an IP address already used by another model. (event [{e}]).	CsPCause/Prob00010401 DUPLICATE IP ADDRESS The model has the same IP address as that of some other model.
CsEvFormat/Event00010402 {d "%w- %d %m-, %Y - %T"} - Device {m} of type {t} is created with a physical (Mac) address already used by another model. (event [{e}]).	CsPCause/Prob00010402 DUPLICATE PHYSICAL ADDRESS The model has the same Physical address (Mac address) as that of some other model.



Chapter 5

Application View

What is in this Chapter

This chapter describes how to use the Application view for the SynOptics Model 3000 Series. The Application view provides buttons that allow you to access increasingly detailed views of network information, and table entries within views that provide you with double-click zones that navigate to device-specific information views.

See Chapter 1, *Introduction*, for information on *Accessing SPECTRUM Views*.

The following device-specific applications are covered in this chapter:

- Syn3CommonApp
- Syn3FDDIApp
- Syn3EnetBdg
- SynTRApp
- SynEthernetApp
- SynEnetIfApp

The following applications are not device-specific and are described in the ***Bridging Applications, MIB-II Applications, or Miscellaneous Applications*** documentation:

- MIB-II (SNMP2_Agent)
 - IP (IP2_App)
 - System (System2_App)
 - ICMP (ICMP_App)
 - UDP (UDP2_App)

Syn3 Common /Syn3FDDI/Syn3Stck Application

These applications provide access to the following subviews described in Chapter 3, [*Configuration Views*](#):

- SynOptics Chassis Configuration View
- SynOptics Configuration View
- SynOptics Agent Download View
- SynOptics Agent Protocol View
- SynOptics Agent Configuration View
- SynOptics Agent Hardware View
- SynOptics IP Trap Receiver Table View
- SynOptics IPX Trap Receiver Table View

Syn3EnetBdg Application

This application provides access to the following subviews described in the ***Bridging Applications*** documentation or Chapter 3, [*Configuration Views*](#):

- SynOptics Ethernet Local Bridge Configuration
- SynOptics Ethernet Local Bridge Spanning Tree Configuration
- SynOptics Ethernet Local Bridge Filter Table
- SynOptics Ethernet Local Bridge Range Table

SynTR Application

This application provides access to the SynOptics Token Ring Configuration View described in the Chapter 3, [*Configuration Views*](#):

Syn3FDDISMT Application

This application provides access to the following subviews:

- SynOptics SMT Configuration View
- SynOptics SMT Parameters View
- SynOptics LER Thresholds View

SynOptics FDDI SMT Configuration View

This view displays the following SMT information:

SMT Index

A unique value for each SMT.

Station Id

Identifies an FDDI station.

CF State

The attachment configuration for the station or concentrator.

Station Status

The operating status of the primary and secondary paths within this station.

Bypass Present

A flag indicating if the station has a bypass on its AB port pair.

ECM Status

Indicates the current state of the ECM state machine.

Remote Disconnect Flag

Indicates that the station was remotely disconnected from the network.

Peer Wrap Flag

Displays the peer wrap flag in CFM.

Operation Version

The version currently being used.

Highest Version

The highest version of SMT that this station supports.

Lowest Version

The lowest version of SMT that this station supports.

MIB Version

The version of this mib.

MAC Count

The number of MACs in the station or concentrator.

Non-Master Count

The number of Non Master Ports (A, B, or S ports).

Master Count

The number of master ports in a node. If the node is a concentrator, the value is zero.

Set Count

Indicates that a set operation on the mib has occurred.

Last Set Station Id

Identifies the last station that was set.

Time Stamp

Displays the value of time stamp.

Transition Time Stamp

Displays the value of transition time stamp.

SynOptics FDDI SMT Parameters View

This view displays the following SMT information:

Intelligent Insertion Policy

The intelligent insertion policy used by the SMT on this concentrator.

Intelligent Insertion Mask

The intelligent insertion policy Bit Mask.

Station Action

This value can be set as follows:

- Other - badvalue error
- Connect - generates a connect signal to ECM to begin a connection sequence
- Disconnect - generates a disconnect signal to ECM and sets the disconnect flag
- Path Test - initiates a path test
- Self Test - initiates a station test
- Disable A - disables port A if it is in the peer mode
- Disable B - disables port B if it is in the peer mode
- Disable M - disables all M ports

Notify Timer

The timer used in the neighbor notification protocol (in seconds).

Trace-Max Expiration

Indicates thar a bypass is present.

User Data

Thirty-two octets of user defined information.

Manufacturer Data

Twenty-nine bits of manufacturers data.

Configuration Policy

Indicates the configuration capabilities of a node.

Connection Policy

Indicates the connection policies in effect in a node.

Status Report Policy

Indicates that the node will generate status reporting frames for events and conditions.

SynOptics FDDI SMT LER Thresholds Table View

This view displays the following SMT information:

SMT Index

A unique value for each SMT.

Port Index

Identifies each port.

LER Cutoff

The link error rate estimate at which a link connection will be broken.

LER Alarm

The link error rate estimate at which a link connection will be generate an alarm.

LER Estimate

A long term average link error rate. Reported in the absolute value of the base 10 logarithm.

LER Condition

The condition becomes active when the value of the LER Estimate is less than or equal to the LER Alarm.

LEM Reject Count

A link error monitoring count of the times that a link has been rejected.

LEM Error Count

The aggregate link error monitoring count set to zero only on station initialization.

LEM Error Count

The count of consecutive times the link confidence test has failed during connection management.

SynFDDIMAC Application

This application provides access to the following subviews:

- [*SynOptics FDDI MAC Configuration View*](#)
- [*SynOptics FDDI MAC Parameters View*](#)
- [*SynOptics FDDI MAC Performance View*](#)
- [*SynOptics FDDI MAC Detail View*](#)
- [*SynOptics FDDI MAC Station Table View*](#)

SynOptics FDDI MAC Configuration View

This view displays the following FDDI MAC information:

SMT Index

A unique value for each SMT.

MAC Index

Identifies each MAC.

SMT Address

A forty-eight bit individual address of the MAC used for SMT frames.

RMT State

Indicates the current state of the RMT State Machine.

Hardware Present

Indicates the presents of hardware support for this MAC object.

Upstream Neighbor

The MAC's upstream neighbor's long individual MAC address.

Downstream Neighbor

The MAC's downstream neighbor's long individual MAC address.

Old Upstream Neighbor

The previous value of the MAC's upstream neighbor's long individual MAC address.

Old Downstream Neighbor

The previous value of the MAC's downstream neighbor's long individual MAC address.

Duplicate Address Test

The duplicate address test flag.

Duplicate Address Flag

The RMT flag duplicate address flag.

UNA Duplicate Address Flag

Indicates that the upstream neighbor reported a duplicate address condition.

Current Path

Indicates the path into which this MAC is currently inserted.

Frame Condition

Indicates the MAC's optional Frame Status processing functions.

Available Paths

Indicates the path available for this MAC .

Frame Status Functions

Indicates the path available for this MAC .

SynOptics FDDI MAC Parameters View

This view displays the following FDDI MAC information:

SMT Index

A unique value for each SMT.

MAC Index

Identifies each MAC.

SMT Address

A forty-eight bit individual address of the MAC used for SMT frames.

T_Neg

Displays the T_Neg value passed to the MAC.

T_Req

Displays the T_Req value passed to the MAC.

T_Max

Displays the T_Max value passed to the MAC.

T_Max Capability

Displays the maximum time value of T_Max that this MAC can support.

TVX_Value

Displays the TVX_Value passed to the MAC.

TVX Capability

Displays the maximum time value of TVX_Value that this MAC can support.

Frame Error Threshold

A threshold for determining when a MAC condition report will be generated.

Frame Error Ratio

The value of this ratio.

MA Unit Data Available True

This variable shall take on the value of the MAC available flag in RMT.

MA Unit Data Enable

Defines a vendor specific characteristic of this managed object class.

Not Copied Flag

Indicates the not copied condition is present when true.

Not Copied Threshold

A threshold for determining when a MAC condition report will be generated.

SynOptics FDDI MAC Performance View

This view displays the FDDI MAC performance information. Refer to the ***SPECTRUM Views*** for information on performance views.

SynOptics FDDI MAC Detail View

This view displays the following FDDI MAC information:

SMT Index

The value of the SMT associated with this MAC.

MAC Index

The variable for identifying this MAC instance.

Frames Not Copied Ratio

A ratio of frames not copied compared to those copied.

Token Count

The number of times the station has received a token on this MAC.

Nonrestricted Token

The number of nonrestricted tokens sent by the NMM.

Frame Count

The number of frames received.

Error Count

The number of errors.

Lost Count

The number of lost frames.

Transmit Count

The number of frames transmitted.

Error Count

The number of errors.

SMT Frames

The number of SMT frames received by the NMM.

LLC Frames

The number of LLC frames received by the NMM.

Frames Copied

The number of frames copied.

Frames Not Copied

The number of frames not copied.

Ring Optional Count

The number of times the ring has entered the Ring Optional state from the Ring Not Optional state.

TVX Expired Count

The number of time that TVX has expired.

Late Count

The number of TRT expirations since this MAC was reset or a token was received.

Beacon Count

The number of beacon counts received by this NMM.

SynOptics FDDI MAC Station Table View

This view displays the following FDDI MAC information:

Ring

A value to identify the ring.

MAC Address

The MAC address for this station.

Station Id

The value to identify this station.

Node Class

The station type of node. If the MAC address is for a station the value will be "0". If the MAC address is for a concentrator the value will be "1".

MAC Count

The number of MACs in this node.

Non-Master Pts

The number of non master ports.

Master Pts

The number of master ports.



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